

PSYCHE.

NOTES ON THE WINTER INSECT FAUNA OF VIGO COUNTY, INDIANA.—VIII.

BY W. S. BLATCHLEY, INDIANAPOLIS, INDIANA.

COLEOPTERA (*Concluded*).

TENEBRIONIDÆ.

Thirty-one species of this family were taken in Vigo County, during my collecting. Of that number representatives of the following twenty were secured in the winter months:

237. *Nyctobates pennsylvanica* DeG. Common at all seasons of the year. Hibernates in its usual abiding places, beneath the loose bark of logs and stumps. Usually six or more together or in close proximity.

238. *N. barbarata* Knoch. This variety is much less common. But once in winter, Dec. 19, from beneath rail.

239. *Haplandrus femoratus* Fab. But one specimen secured in the county. Taken Jan. 13, from beneath log on sandy hillside near large pond.

240. *Tenebrio obscurus* Fab.

241. *T. molitor* Linn. Both hibernate in rubbish in garrets, store rooms, and about stables. Taken on various occasions in winter, especially in buildings which were kept warm.

242. *T. tenebrioides* Beauv. Hibernates sparingly beneath the bark of walnut and beech logs. Feb. 20.

243. *Opatrinus notus* Say.

244. *O. aciculatus* Lec. These two were found in but one locality in the county viz.: beneath logs, chips and pieces of bark, on the sandy hillside, near large pond. They appeared to be as common in winter as in summer.

245. *Blapstinus lecontei* Muls.

246. *B. moestus* Melsh. Of these, *lecontei* was frequent in winter with the species of *Opatrinus* above mentioned; while *moestus* was common in dried fungi and beneath logs and rails along the borders of sandy upland woods.

247. *Tribolium ferrugineum* Fab. This was a common museum pest in the High School building at Terre Haute. It was taken on numerous occasions in winter from the boxes of dried insects.

On Jan. 17, 1896, I received from Dr. Robert Hesslar, Logansport, Ind. a pill box full of Cayenne pepper in which were a dozen or more adult specimens of this beetle. The box was placed in a drawer of my writing desk, and not opened again until March 20, when the beetles were as lively as ever. On September 14, the date of the present writing, it was opened for the third time. Two

living adults and numerous half grown larvae were found therein, together, with the uneaten bodies of the dead adults. The pepper being perfectly dry, the question arises, how do the insects secure sufficient moisture to live and flourish while enclosed in so small a box.

248, *Dioedus punctatus* Lec. The single specimen in my collection was taken Dec. 25, from beneath a partly burned log.

249, *Uloma impressa* Melsh.

250, *U. imberbis* Lec. Both rather common in winter in rotten oak and beech logs.

251, *Anaedus brunnens* Ziegl. But once in the county, Dec. 25, when four specimens were found together beneath a half buried locust log on a sandy hillside.

252, *Hoplocephala bicornis* Oliv. Common in winter in dried fungi, especially those growing on beech logs; also beneath the bark of logs.

253, *Platydema excavatum* Say.

254, *P. ruficornis* Sturm.

255, *P. picilabrum* Melsh.

256, *P. subcostatum* Lap. Of seven species of the genus taken in the county, specimens of the above four were found in the winter. *Picilabrum* was scarce, the others common, in fungi and beneath bark on oak and elm logs and stumps.

MELANDRYIDAE.

257, *Penthe obliquata* Fab.

258, *P. pimelia* Fab. Both hibernate in small numbers beneath logs,

preferably those of beech, in open up-land woods.

259, *Eustrophus bicolor* Say.

260, *E. tomentosus* Say. *Bicolor* frequent, *tomentosus* rare in winter, beneath rails and chunks.

ANTIICIDAE.

261, *Notoxus monodon* Fab. Taken several times in January from beneath chunks on sandy hillside. Common in June in company with *N. bicolor* Say, and *N. bifasciatus* Lec. on flowers of *Cornus*.

262, *Tomoderus constrictus* Say. Dec. 5 and Jan. 21, from beneath rubbish on towpath of old canal.

263, *Anthicus obscurus* Laf. Feb. 11.

264, *A. floralis* Linn.

265, *A. cervinus* Laf.

266, *A. pubescens* Lec. Jan. 13. Of the above *floralis* and *cervinus* were frequent in winter beneath chunks and logs along the canal; the other two but once each from beneath mullein leaves. *A. cinctus* Say was the only additional species seen in the county.

MELOIDAE.

267, *Meloe impressus* Kirby. A single male of this insect was found crawling along a pathway, near the borders of a stream on Dec. 25, 1889.

OTIORHYNCHIDAE.

268, *Tanymericus confertus* Gyll. Jan. 7.

269, *Pandeletejus hilaris* Hbst. Jan. 1. But six members of this family

were taken in the county during my collecting there. The above two in winter, frequent, beneath logs on sandy hillsides.

CURCULIONIDAE.

270, *Listronotus inaequalipennis* Boh.

271, *L. nebulosus* Lec. These were common in sandy places near the borders of large ponds. They feed on leaves of Rumex, and Polygonum, which grow abundantly in the shallow waters. In winter they bury themselves in the sand beneath logs and rubbish. Three other species of the genus, viz., *sordidus* Gyll., *callosus* Lec., and *latiusculus* Boh., are known from the county.

272, *Macrops porcellus* Say. Plentiful in winter. Singly beneath logs in low places.

273, *M. sp.?* Once only. Jan. 21. A single specimen from beneath mullein.

274, *Lixus concavus* Say. On several occasions beneath bark and logs in dry upland woods.

275, *L. macer* Lec. Common in winter beneath logs on sandy hillsides, near ponds. Plentiful in summer on the leaves of Rumex and Peltandrus.

276, *Gymnetron teter* Fab. Hibernates in numbers beneath mullein leaves, on which plant it swarms in summer.

277, *Tyloderma acreum* Say. Once or twice in winter from masses of dried fungi on red oak logs.

278, *Rhinonchus pyrrhopus* Lec. A single specimen, Jan. 7, from beneath chunk in low ground.

279, *Centrinus sp.?* Once only, Jan. 6, locality as above.

CALANDRIDAE.

280, *Sphenophorus ochreus* Lec. This, our largest "snout beetle", hibernates in little burrows in the sand beneath logs and rubbish. It was found in but one locality, viz., near the borders of the large ponds, close to the towpath of the "old canal."

281, *S. pertinax* Oliv.

282, *S. sculptilis* Uhler.

283, *S. melanocephalus* Fab. These three were taken from beneath logs on the sandy margin of the canal, on Feb. 6. *Pertinax* is rare in the county, the others common. In addition to the four named, *costipennis*, Horn, *cariosus* Oliv., *sayi* Gyll., *placidus* Say, *parvulus* Gyll. and *zaca* Horn, were taken in the county, and some, if not all of them doubtless hibernate as imagoes.

284, *Allomimus dubius* Horn. Found but once, Jan. 7. In numbers, gregarious, beneath the bark of a dead walnut (*Juglans nigra* Linn.) snag.

ANTHIBIDAE.

285, *Cratoparis lunatus* Fab. Common in winter in dry fungi, and partly rotten wood of beech and sugar maple stumps.

286, *Brachytarsus variegatus* Say. A single specimen, Jan. 6, from beneath a log near the border of an upland pond. Frequent in early June, on the flowers of the button-bush (*Cephalanthus occidentalis*, L.).

With this article the present series of "Notes on Winter Insects" is brought to a close. In addition to the 18 species of Orthoptera, 64 of Hemiptera-Heteroptera and 286 of Coleoptera, of which especial mention has been made, numerous other forms were taken, the most of which are, as yet, unidentified.

Among them are some twenty or more species of Coleoptera; six of Diptera; twelve winged Hymenoptera, besides numerous species of ants (among the former being females of *Vespa arenaria* and *maculata* and several species of *Bombus* and *Apis*). Five butterflies were also found in hibernation, viz., *Danaüs archippus* Fab., *Grapta interrogatoris* Fab., and *comma* Harr., *Pyrameis atalanta* Linn., and *Vanessa antiopa* Linn., the last most common, and on the wing on Jan. 21, 1894.

Numerous species of myriapods and

a number of spiders were also taken and preserved in alcohol, but are not yet identified.

If, on account of repetition in giving the detail of places of hibernation, the notes have not been as interesting as they otherwise might have been, I trust that they will go to prove that many insects live as adults through the cold season, and that their places of hibernation are not difficult to find. An extended investigation, carried on through a series of years would undoubtedly show many additional species to hibernate in the perfect stage, and if laboratory investigations were made in conjunction—there might be a solution of one of the great entomological problems; viz. How can a living insect be frozen solid for weeks and yet retain vitality sufficient to fully recover and perpetuate its kind when the halcyon days of spring roll round once more?

LIFE HISTORY OF DEILEPHILA LINEATA.

BY CAROLINE G. SOULE, BROOKLINE, MASS.

The eggs were sent me by Dr. J. M. Schaffer, from Keokuk, Iowa. They were laid on July 4th and 5th., and were ovoid, small in proportion to those of other sphingid moths of the same size as this *D. lineata*, and yellow green, becoming bluer in a few days.

July 10th they hatched. The young larva was $\frac{5}{2}$ inch in length, pale green, with a short, smooth, caudal horn with two setae at the tip, which turned gray. The head was round, had many gray setae, and was held nearly horizontal. The first segment had a row of setae projecting over the head, and

the setae of the body were dark enough to be noticed without a glass. The larvae were very active and restless, and dropped by a thread when disturbed. They did not eat their shells, and ate grape-leaves but sparingly.

On the second day some had a distinct brownish-red dorsal line from the now black caudal horn half-way to the head, giving a pinkish look to the posterior part of the body. A few had the first few segments decidedly pinkish and looked (without a glass) striped longitudinally, the stripes being the black setae, which were most numerous on the